REMARKS

Applicant is in receipt of the Office Action mailed May 9, 2005.

Claim status is:

Claims 1-25 were pending in the application prior to entry of the present amendment.

Claims 1, 6, 7, 9-10, 14, 17-18, and 24 are herein amended.

Claims 16, and 25 have been canceled.

Claim 26 has been added.

Claims 1-15, 17-24, and 26 are now pending.

Double Patenting Rejection

Claims 1-25 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-52 of copending Application No. 09/760,512 (entitled "Recovering added precision from L-bit samples by dithering the samples prior to an averaging computation").

Applicant requests the double patenting rejection be held in abeyance until the examiner has specified allowable claims in the application, at which time Applicant will consider the filing of a terminal disclaimer to overcome a double patenting rejection.

Rejections Under Section 102

Claims 1-25 were rejected under 35 U.S.C. §102(b) as being anticipated by Deering et al., US 2002/0005854 (Patent Application No. 09/760,512), hereinafter referred to simply as Deering.

Claim 1 recites:

  A graphics system comprising:

a set of graphics accelerators, wherein each card comprises a rendering processor, an internal frame buffer, and a video data port; and

a series of filtering units, wherein each of the filtering units couples to a video data port of a corresponding one of the graphics accelerators;

wherein each of the graphics accelerators is configured to: (a) generate a stream of samples in response to received graphics primitives, (b) add a corresponding dither value to the color components of the samples to obtain dithered color components, (c) buffer the dithered color components in the internal frame buffer, and (d) forward truncated versions of the dithered color components to a corresponding filtering unit; and

wherein for a specific pixel, each of the filtering units is configured to compute corresponding partial sums from the truncated versions of the dithered color components.

Deering neither teaches nor implies "for a specific pixel, each of the filtering units is configured to compute corresponding partial sums from the truncated versions of the dithered color components". In fact, the words "partial sum" do not occur in Deering. Deering instead teaches the calculation of color components for a specific pixel in a single filter unit.

The Current Office Action states that Deering uses the phrase "truncated sum" and implies it is the same as "partial sum". However, Deering states in paragraph 0019:

> "A graphics system may, in one embodiment, comprise one or more rendering units, a dithering unit, a sample buffer, and one or more sample-to-pixel calculation units. The rendering units may compute a plurality of sample values corresponding to positions in a two-dimensional virtual screen space. The dithering unit is configured to receive a spatially co-located group of sample values from a rendering unit. The sample values may represent color values (e.g. red, green, or blue values), alpha values, etc. The **dithering unit adds dither values to the sample values, truncates the resultant addition values to L-bit truncated values (where L is an integer), and stores the L-bit truncated values into the sample buffer**. The truncation length L may take any of a variety of values. For example, in one embodiment L equals ten."

Therefore, Deering uses "truncated" to refer to dropping the least significant bits from a sum of a dither value and a sample value."

Applicant defines "partial sum" at least on page 8, lines 4-17 of the patent application:

> "In one set of embodiments, a graphics system may be configured with one filtering unit per graphics card (i.e., $N_{GC}=N_{FU}$) as suggested by Figure 3. Each filtering unit FU(K) receives a stream H_K of samples from the corresponding graphics card GC(K). The stream H_K contains samples computed on the subset T_K of sample positions.
> As suggested by Figure 4, each filtering unit FU(K) may scan through virtual screen space in raster fashion generating virtual pixel centers denoted by the small plus markers, and generating a set of **partial sums** (e.g., one **partial sum** for each color plus a **partial sum** for filter coefficients) at each of the virtual pixel centers based on one or more samples from the stream H_K in the neighborhood of the virtual pixel center. Recall that samples of the stream H_K correspond to samples positions of the subset T_K. These sample positions are denoted as small circles in Figure 4. (The virtual pixel centers are also referred to as filter centers or convolutions centers.) The filtering units are coupled in a series to facilitate the pipelined accumulation of the sets of **partial sums** for each video output pixel."

Clearly, a "partial sum" is very different from a "truncated sum".

Therefore, Applicant submits that claim 1 and its dependent claims are non-obvious and patentably distinguished over Deering for at least the reasons given above. Applicant also submits that the independent claims 10 and 18 and their dependent claims are also non-obvious and patentably distinguished over Deering for at least the reasons given above in support of claim 1.

CONCLUSION

In light of the foregoing amendments and remarks, Applicant submits the application is now in condition for allowance, and an early notice to that effect is requested.

If any extensions of time (under 37 C.F.R. § 1.136) are necessary to prevent the above referenced application(s) from becoming abandoned, Applicant(s) hereby petition for such extensions. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert & Goetzel PC Deposit Account No. 50-1505/5681-5900/JCH.

Also enclosed herewith are the following items:

☒ Return Receipt Postcard

☐ Petition for Extension of Time

☐ Request for Approval of Drawing Changes

☐ Notice of Change of Address

☐ Check in the amount of $ for fees (   ).

☐ Other:

Respectfully submitted,

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